

NEW BUTTERFLIES AND SUNDRY NOTES.

(Lepidoptera, Rhopalocera)

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Basilarchia archippus Cram., tr. f. *nivosus* new tr. f. (Fig. 1, pl. XXX.)

The ground color is white on both surfaces instead of the usual red-brown shade. The maculation is unchanged. Classification: albinism-final; same kind of tr. f. as *Danaus menippe nivosus* Gun. and others.

Data: holotype ♂; expanse 69 mm.; Mystic, Conn., July; original collector unknown; type in author's coll.

Note: A partial check list revision of the names under this species should be made as follows:

Basilarchia Scud.

311. *archippus* Cram.

disippe Godt.

form *advena* Ellsw.

cayuga Naka.

tr. f. *pseudodorippus* Stkr.

lanthanis Cook & Wats.

tr. f. *nivosus* Gun.

etc., etc.

A typical *archippus* is shown on pl. XXX. To its left are pictured gradations of tr. f. *pseudodorippus* Stkr., as lettered *a*, *b* and *c*. Fig. *c* illustrates the final phase of which I know of two examples, one being in this author's coll. and the other at the Field Museum in Chicago. Strecker's type is similar to fig. *a* and also so is *lanthanis* Cook & Wats. which falls as a synonym. Fig. *aa* shows *advena* Ellsw. which should be recorded as a form, rather than a tr. f. because of its mendelian characters atavistic to the existent race *obsoleta* Edw. which it rapidly approaches. This form of the species is not uncommon.

Glaucopsyche lygdamus Dbldy., race *behri* Edw., tr. f. *sternitzkyi* new tr. f. (Fig. 2, pl. XXXI.)

Submarginal rows of black spots on the under sides of both wings tend to become obsolete. There remains a partial

row on the primaries. The crescent-shaped cell spots are unaffected. Fig. *b* illustrates a typical *behri*. Classification: immaculism—the final degree would be a total lack of spots, excepting cell spots.

Data: holotype ♂, fig. *a*; expanse 30 mm.; Fairfax, Marin Co., Calif., Apr. 9, 1927. One paratype ♂, not quite so immaculate; expanse 27 mm.; Trinity Co., Calif., June 2, 1928. Types in author's coll. Named after Mr. R. F. Sternitzky, of San Francisco, the original collector.

Plebeius monticola Clem., tr. f. **montanus** new tr. f. (Fig. 3, pl. XXXI.)

Black spotting through discal areas on under sides lacking on primaries and reduced on secondaries. Cell marks unchanged. The two submarginal rows of spots at outer margins also seem unaffected. Upper sides quite typical. Fig. *b* shows an ordinary *monticola*. Classification: immaculism—with named example approaching final degree.

Data: holotype ♂, fig. *a*; expanse 22 mm.; Cajon Pass, San Bernardino Co., Calif., May 14, 1922 (Karl Coolidge); type in author's coll. (*montanus* = hilly region).

Plebeius acmon West & Hew., tr. f. **angelus** new tr. f. (Fig. 4, pl. XXXI.)

All black spots through discal areas on under sides slightly enlarged and elongated, becoming drop-shaped and pointing inward. Cell spots form dumb-bell design. The two submarginal rows of spots through limbal areas remain typical in this example. Fig. *b* shows a regular *acmon*, ♀. Classification: melanifusism—it remains to be seen whether the marginal rows also change in the final phases of this species.

Data: holotype ♀, fig. *a*; expanse 24 mm.; Los Angeles, Calif., June 10, 1920. Type in author's coll.

Argynnis montivaga Behr., tr. f. **boharti** new tr. f. (Figs. 5, pl. XXXI.)

The figures show both upper and under sides of this tr. f., as well as a typical *montivaga* of the same sex and from the same locality. The maculation change is similar to *Arg. erinna cunninghami* Owen and nearby variants. The tr. f. *cunninghami* is in the Barnes coll. Conspicuous by less of

usual *Argynnis* design in being almost black through limbal areas on both surfaces with discal area veining broadly black and basal areas of under side secondaries retaining evidence of silver spots and some original design. Classification: melanifusism—probably final phase because of similarity to related examples. *Mammothi* Gun. represents immaculism which is the opposite reaction in this species to melanifusism.

Data: Holotype ♀, expanse 46 mm.; Mono Pass Trail (Yosemite to Mono Lake), Calif.; July 16, 1929. In author's coll. and named after Mr. R. M. Bohart, of Berkeley, Calif., who took the specimen.

Melitaea mayi n. sp. Fig. 6, pl. XXXI.

The figures show both upper and under sides of this interesting specimen in approximately natural size. I believe that this species will be found to be as unique in comparison to other American *Melitaeas*, as is *Euphydryas gillettii* Barnes in its relation to other *Euphydryas*. In markings it is related to the *Melitaea athalia* Rott. group of Europe and Asia, coming extremely near to race *latefascia* Fixs which is found in Corea and illustrated in color by Seitz, pl. 661 of Palearctic Butterflies. The ground color is brown, the maculation black and the lighter markings of the under side secondaries, a cream-white without silvering or a definite luster. This broad band of light irregular shaped spots across the discal area of the under side secondaries is an interesting feature in making its comparison to other American *Melitaeas*. According to the Barnes & Benj. 1926 Check List this species would probably be placed at the end of the *theona-pola* group.

Data: Holotype ♂, expanse 42 mm.; small high valley four miles west of Ptarmigan Valley, Banff, Alb., Canada, July 28, 1929. A single male collected by Mr. J. F. May, of Kelwood, Man., Canada, after whom it is named.

Note: In this locality Mr. May also took *Melitaea malcolmi* Comst. which extends its range into Canada. A splendid series of *Euphy. editha beani* Skin. was also taken.

Dione vanillae L., form normal *incarnata* Riley, tr. f. *hewlettiae* tr. f. Figs. 7, pl. XXXI.

The ground color is white instead of the usual red-brown shade. Silvering and black maculation unchanged. Classification: albinism—final color change.

Data: Holotype ♀, expanse 68 mm.; Ontario, Riverside Co., Calif. Taken in the summer of 1927 by Miss Esther P. Hewlett after whom it is named.

Note: The recording of this transition form completes all the names which can be given to this American race of *vanillae* under existing classification. To wit: (A) Under change of maculation comes *comstocki* representing melanifusism and its opposite *marginapertus* representing immaculism. (B) Under change of color comes *fumosus* representing chromatism and its opposite *hewlettiae* representing albinism. Examples of all of these have been illustrated at the time of their original description. It is unfortunate that Mr. Riley, of London, gave a name to the American race of *vanillae* without taking into consideration previously named transition forms which goes to prove that timely abstracting of exotic literature is most necessary. I recognize error on my part in following some of our own incorrect list names.

SUNDRY NOTES ON NAMES AND NAMING.

It would be a foolish idea to try to dry up the ocean in order to stem a tide. A better plan would be to properly regulate the tide and let the ocean take care of itself. Similarly, it is better to carefully regulate the naming of insect variations, instead of curtailing, by anti-evolutionary sentiment in the Code, what might prove to be good entomological work. To achieve at least partial regulation give authors a modern system of classification under which to describe their atypical specimens and synonymy will be cut to a minimum. Eventually we will certainly do away with the old two-dimensional scheme of classification and some day with that man-made unnatural "timetable" of priority and we will adopt a general sliding scale for classification which is based entirely on the natural "timetable" of evolution. We are making a progressive step in that direction by classifying transition forms and allowing them the recognition they deserve. Their grade on the evolutionary stage is no longer a matter of guess work. The fact of scarcity is never an excuse in scientific investigation, though it may be a problem.

Classification of variation requires study, as well as a constant review of new literature. But there will always be present authors who follow the paths of least resistance. An easy way to dodge responsibility and shift uncertain classification to others is to use the word "variety." The phrase "new variety" in original de-

scription is a convenient entomological cover-all, having a different positional status in the opinion of every one in America, as well as in Europe. It won't hurt taxonomy to stop using that word, for there are other more logical terms to use in its stead. "Sub-species" is another word which is going into disuse, because "race" is more expressive. Besides "sub-species" is sometimes used to mean any one thing under species. It has been used many times to definitely suggest much lower steps on the classification scale, than "race" would indicate. For this reason its use as a positive fixation is not advised. I do not advocate the use of the words "aberration" or "ab" for reasons as first given on p. 265, vol. 38, November, 1927, *Entomological News*.

The use of a term in original description which infers variation due to malformative or uninheritable causes suggests specimens unfit for classification on a natural development scale; therefore, to designate legitimately recurrent variation of specific nature, I have employed for several years, the expression "transition form," or its abbreviation—"tr. f." If authors will gradually come to use this term and acquaint themselves with the systematic arrangement under which their transition forms always occur, they will save themselves considerable synonymical chagrin through duplication. The day is passing (in America at least) when an author can slap on a "new ab." without thought or direct reference to similar nearby names and get away with it.

Some notes on recently described butterflies follow:

Minor Chermock for *Eury. philodice* Godt., form ♀ *plicaduta* Naka. (Bul. Brook. Ent. Soc., p. 118, vol. XXII, April, 1927.) Type a dwarf. See "Unnamable Butterflies," July, 1928, *Ent. News*. Falls as a synonym under species *philodice*.

Alba Chermock for *Eury. philodice* Godt., form ♀ *plicaduta* Naka. (Bul. Brook. Ent. Soc., p. 119, vol. XXII, April, 1927.) Nakahara's name takes care of both yellow and white females which have or tend to have solid black borders. Falls as a synonym under *plicaduta*, as does "*albida*" which was "A Correction," as stated on p. 173, Oct., 1928, issue.

Ehrmani Chermock for *Eury. philodice* Godt., form ♀ *plicaduta* Naka. (Bul. Brook., p. 118, vol. XXII, April, 1927.) Reduction or enlargement of the discoidal spot or variance of marginal width, without suffusion, represents the naturally reciprocal tendency within the limits of the described species. (An Eskimo

with big broad shoulders is an Eskimo just the same.) Falls as a synonym under *plicaduta*.

Boweri Chermock for *Saty. eurydice* Joh. (Bul. Brook. Ent. Soc., p. 119, vol. XXII, April, 1927.) Number of individual spots, gradation or lack of spots have never been recognized as namable characteristics for the *Satyridae* groups which are continually and individually variable in this regard. Falls as synonym to the species.

Intermedia Chermock for *Glau. xerces* Bdv. (Bul. Brook. Ent. Soc., p. 20, vol. XXIV, Feb., 1929.) An examination of the illustrations of the allied *xerces* figures pictured in Comstock's "Butterflies of California" will show that there are more than enough names applied near this species. Falls as a synonym possibly under *antiacis* Bdv. There is no transition sequence between black to grey in these names.

Borealis Chermock for *Cercy. pegala* Fabr. (Bul. Brook. Ent. Soc., p. 21, vol. XXIV, Feb., 1929.) Only an extreme *alope nephele* Kirby under which it falls as a synonym. Ohio has been too well combed over to produce a constant new race.

Laurae Chermock for *Eury. eurytheme* Bdv., form *eryphyle* Edw. (Bul. Brook. Ent. Soc., p. 21, vol. XXIV, Feb., 1929.) Tr. f. *alba* Stkr. takes care of albinism for the species *eurytheme*, as well as its seasonal forms.

Serrata Chermock for *Eury. philodice* Godt. (Bul. Brook. Ent. Soc., p. 21, vol. XXIV, Feb., 1929.) Variation of the contour of the inner margin of the marginal band of all species within the *Eurymus* is variation within the converging limits of the species itself and not classifiable under suffusion. A synonym of *philodice*.

Fulvus Rummel for *Lyc. hypophlaeus* Bdv.; also

Neui Rummel for *Lyc. hypophlaeus* Bdv. (both Bul. Brook. Ent. Soc., p. 268, vol. XXIII, Dec., 1928). *Fulvus* represents melanifusism, likewise does *banksi* Wats. & Comst., both of which are synonyms under *fasciata* Stkr. *Neui* is a chrysalis burn or malform and synonymous under the species. *Octomaculata* Dean is a form, a mendelian form, atavistic probably to existent western representatives in the genera. Only three transitions forms for the species are possible, all have been named. The following check list revision is suggested:

Lycaena Fabr.

415. hypophlaeas Bdv.

americana Harr.*neui* Rumm.form *octomaculata* Deantr. f. *fulliolus* Elst. (*chromatism*)tr. f. *obliterata* Scud. (*immaculism*)*caeca* Reiff*obsoleta* B. & McD.tr. f. *fasciata* Stkr. (*melanifusism*)*banksi* Wats. & Comst.*fulvus* Rumm.

Streckeri Holland for *Pap. bairdii* Edw. (Bul. Carn. Mus., p 310, no. 2, vol. 17, April, 1927.) *Asterioides* Reak. should be placed as a synonym under *bairdii*. In my series of *bairdii* from Arizona in particular, New Mexico, the Great Basin and Southern California, most of the males have, on their upper side, the fully developed yellow mesial band of spots (as on Edwards's singly described male type); while in others there is a gradual loss of this band, until in some specimens, it is totally absent. Likewise in the females, this same gradation occurs, some having this same band of spots (an interesting notation!), while the majority, of course, are always without it. The yellow crescent cell spots, in both sexes, appear or increase in size according to the increase of yellow design elsewhere. Another point of interest is that some examples have a visage of the reddish tinge within the yellow on the under side secondaries and some have not. The conclusion is that by this variability, our western *bairdii* shows its mendelian inheritance, either to or from, the eastern cousin *Pap. ajax* L. (*asterias*). The named illustration of *streckeri* Holland is referable to none of the eight divisions under which tr. fs. are classified and the name will fall, as a slight straight synonym, probably under syn. *asterioides* Reak.

Nebraskensis Holland for *Brenthis myrina* Cram. (Ann. Carn. Mus., p. 36, no. 1, vol. XIX, Dec., 1928). I believe it is conceded that dwarfs and giants find no place in present day classification through the application of specific names. Size alone counts for nothing in a species having a considerable range where environment produces largeness or smallness only. Imperial Valley in California develops the largest common *Cynthia cardui* L. of any place in U. S., but they don't seem to be worthy. *Nebraskensis*

which was given under the vague term "variety" to four males falls as a synonym under *myrina*.

Pardopsis Holland for *Brenthis bellona* Fabr. (Ann. Carn. Mus., p. 36, no. 1, vol. XIX, Dec., 1928). This is a name where illustration would be of great help, but I trust it represents a showing towards immaculism, that is a first degree tendency at least towards lack of design. Tr. f. *kleenei* Wats. which is a well developed phase of melanifusism unfortunately falls as a synonym to tr. f. *fasciata* Ckll. which in a much lesser degree represents the same thing. Cockerell's poor description as well as Maynard's illustration on which he based his name are both terrible pieces of entomological reference.

Biedermanni Ehrman for *Eurema mexicana* Bdv. (Bul. Brook. Ent. Soc., p. 84, vol. XX, April, 1925). A male specimen from Arizona with slightly heavier black emargination on upper side secondaries as well as on primaries. This excess encroachment of the black partly cuts the contour of the "jaw of the dog-head" design and Mr. Ehrman's idea of classification placed it as a new species. Marginal width variation within either the genera *Eurymus* or *Eurema* are strains not generally classifiable under transition forms unless the suffusion or immaculation is apt to be entirely complete over the wing and for certain well known species, like *mexicana* for example, this is doubtful; therefore, the name *biedermanni* only represents variation within the legitimate alternate limits of the species and falls as a synonym thereof. *Recta* Klots (Ent. Am., p. 134, vol. IX, Dec., 1928) is a name applied to oppositely marked specimens from *biedermanni* or those having less heavy black emargination. Most of the foregoing synonymical reference is applicable to this name. See note on the above synonymy of *serrata* Chermock for additional reference.